NEW SPECIES OF THE FAMILY ELATERIDÆ (COL.).

BY CHAS. SCHAEFFER,

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Alaus zunianus Casey.

This species is placed as synonym under *lusciosus* in our list. However, two specimens from Arizona received from Mr. G. Franck and others which I have seen show sufficient differences from *lusciosus* to entitle it to be restored.

The thorax is more strongly sinuate before the basal angles, the outer antennal joints are slightly more transverse, the underside is covered with black scale-like hairs, with a large patch of white scale-like hairs on each side of prothorax and at sides of each abdominal segment a smaller white patch. The legs are covered with black hairs only and the last ventral segment is much more densely punctate with very few small punctures intermixed at middle.

Aptopus subcarinatus new species.

Elongate, piceous; antennæ, palpi, mandibles and legs testaceous; pubescence short, greyish. Head moderately closely punctate; antennæ reaching far beyond the hind angles of prothorax, third joint very distinctly shorter than fifth. Prothorax as long as wide at base; sides without acute margin, slightly arcuate to a little before basal angles; the latter divergent; surface unequally punctate, a few larger punctures intermixed with the smaller punctures; punctures well separated on the disk, a little more close near apex and sides; hind angles rather feebly carinate, the carina not acute and almost obliterated. Elytra about two and one half times as long as the prothorax; sides feebly arcuately narrowing to apex; striæ feebly impressed and with moderate punctures. Prosternum finely and sparsely punctate; propleuræ densely punctate with small punctures; metasternum moderately closely punctate and with larger punctures intermixed; abdomen finely and rather closely punctate. Length 8 mm.

Huachuca Mts., Arizona (Schaeffer).

Some specimens have the punctuation of prothorax a little stronger and closer, in these the dual punctuation is not so pronounced.

This species differs from *peregrinus* in more elongate form, shorter second and third antennal joints, finer and sparser punctuation and hind angles of prothorax distinctly divergent.

Aptopus rugiceps new species.

Elongate reddish brown; antennæ and legs slightly paler; pubescence short, yellowish grey. Head very densely and rather coarsely punctate, punctures partly confluent; antennæ reaching far beyond the basal angles of prothorax; third joint equal, or very nearly so, to the fifth joint. Prothorax subquadrate; sides without acute margin, slightly arcuate to a little before basal angles, the latter not, or extremely feebly, divergent; basal angles feebly carinate, the carina not acute; surface densely punctate, with uniform and moderately large punctures. Elytra about two and one half times as long as the prothorax at base; sides feebly arcuately narrowing to apex; striæ moderately coarsely punctate; intervals convex and sparsely and finely punctate. Prosternum closely punctate; propleuræ very densely subconfluently punctate; metasternum densely punctate; abdomen more finely punctate. Length 8 mm.

Huachuca Mts., Arizona (Schaeffer).

The differences between this species and *peregrinus* are slight consisting only in generally larger size and coarser, denser punctuation of head, prothorax and propleuræ.

Elater sanguinicollis new species.

Red; head, scutellum, elytra, prosternal spine, meso- and meta-sternum and coxal plates black. Head rather densely and moderately coarsely punctate. Antennæ reaching not quite to the hind angles of prothorax; not strongly serrate, joints slightly longer than wide; third joint not triangular and as long or nearly as long as the fourth joint. Prothorax not coarsely nor densely punctate, punctures as usual stronger at apex and sides; hind angles not bicarinate; pubescence red. Elytra with scarcely impressed striæ, the punctures moderate; intervals nearly flat and subrugosely punctate; pubescens short, black. Length 7.25 mm.

Beaver Valley, Utah (Doll & Engelhardt).

This species is best placed with *collaris* and allies, though the antennal joints, especially the outer are slightly longer, than in that species. In Leconte's table[1] it would go near *nevadensis* from which it differs in having a red abdomen, black pubescence of elytra and pale antennæ.

[1] Trans. Am. Ent. Soc., XII, 10.

In Dr. Leconte's table the majority of our species having the hind angles unicarinate are said to have the antennæ strongly serrate and the joints not longer than wide. However, *rubricollis, apicatus* and others have the joints rather longer than wide, especially the outer, and not strongly serrate. *E. xanthomus* is also out of place in the table as the third antennal joint is triangular in both sexes and ought to go therefore with *nigricollis, linteus, discoideus,* etc. In "Revision of the Elateridæ" Leconte describes the third joint correctly as triangular. These errors will cause a little trouble as also the omission of the number 13 in front of line 27 from the top in the table.

Elater oregonus new species.

Black; legs, prothorax above and below, except prosternum, red, antennæ brownish. Head somewhat coarsely, evenly punctate; antennæ feebly serrate; joints longer than wide, third joint a little longer than second, not triangular, both together a little longer than fourth. Prothorax rather feebly arcuate at sides; hind angles slightly divergent, unicarinate; disk rather sparsely punctate. Elytra nearly parallel to about middle, then feebly narrowing to apex; striæ moderately coarsely punctate, punctures finer towards apex; intervals flat, very sparsely and generally uniseriately punctured. Metasternum rather coarsely punctate, abdomen more finely. Length 7.5 mm.

Dilley, Oregon (coll. O. Dietz).

The elongate antennal joints and bicolored upper surface would place this species with *mixtus* and *pullus* in Dr. Leconte's table, from both it differs in its red prothorax and unicolored black elytra. The antennal joints are slightly more elongate than in any of these two species.

The prothorax is not entirely clear red, having on each side of middle near apex a faint, dark cloud, the posternum is reddish near apex and between the coxæ, the last two ventral segments are brown.

Megapenthes longicornis new species.

Narrow elongate, ferruginous, head piceous, underside, antennæ and legs paler. Head coarsely, densely punctate; antennæ very elongate in the male, shorter in the female, second and third joints small, third a little longer than second, both together shorter than the fourth in the male, but about as long as the fourth in the female. Prothorax gradually narrowing to apex; sides nearly straight in the male, feebly rounded in the female, hind angles not divergent; surface moderately coarsely punctate. Elytra nearly parallel to a little behind middle, then arcuately narrowing to apex; striæ moderately

deeply impressed; intervals flat, not densely punctate, near base granulate-rugose. Prosternum and metasternum somewhat coarsely and sparsely punctate, abdomen more finely punctate. Length 8.75 mm.

Huachuca Mts., Arizona (Schaeffer).

A fairly common species. The antennal joints four to eleven of the male are very long, equal in length and not serrate; in the female the joints are shorter and gradually decreasing in length and the form, as usual, is more robust.

Megapenthes nigriceps new species.

Form of *rufilabris,* color ferruginous, head piceous near apex paler. Head coarsely and rather densely punctate; antennæ in the male as long as head and prothorax together, second and third joints, small, fourth joint longer than second and third joint together, joints elongate and feebly serrate. Prothorax gradually narrowing to apex, sides scarcely arcuate, hind angles bicarinate, the inner carina fine and very close to the lateral margin; surface punctate and moderately large, ocellate punctures. Elytra gradually narrowing from base to apex, striæ moderately deeply impressed and punctate; intervals flat, towards base granulate rugose, towards apex moderately not densely punctate. Prosternal side pieces more coarsely punctate than the prosternum; metasternum, densely and rather coarsely punctate, punctures coarser at sides than at middle; abdomen closely punctate. Length 8 mm.

Brownsville, Texas (Schaeffer).

The specimen described is a male and closely related to *rufilabris* from which it differs in color, longer antennal joints, coarser punctation of prothorax, relatively longer hind tarsal joints and rather deeply emarginate hind coxal plates. Both species, *rufilabris* and *nigriceps* have the hind angles of prothorax bicarinate and should be placed in section B of Dr. Leconte's table[1] with *angularis* which differs from both of these species in having the hind coxal plates truncate and a shorter third antennal joint.

Megapenthes tarsalis new species.

Form of *rufilabris,* black, front of head and prothorax yellowish-red, the latter above and below with a large, black spot, which extends narrowly to the anterior margin but not to the lateral nor basal margin; basal margin of elytra also narrowly reddish. Head densely punctate; antennæ with second joint very small, third nearly as large as the fourth, triangular. Prothorax as in *rufilabris* but hind angles not bicarinate; surface moderately densely punc-

[1] Trans. Am. Ent. Soc., XII, 6.

tate. Elytra gradualy narrowing from base to apex; striæ deeply impressed; intervals nearly flat, granulate-rugose. Metsternum rather coarsely and densely punctate. Abdomen more sparsely and finely punctate; first joint of hind tarsi very nearly as long as the following together. Length 6 mm.

Southern Pines, N. C. (A. H. Manee).

A neat little species, which was sent me several years ago, collected June 15, 1908. It resembles somewhat fully colored specimens of *rufilabris* in form and coloration but has a differently formed third antennal joint, a much longer first joint of hind tarsi and hind angles of prothorax unicarinate.

Diplostethus (Ludius) opacicollis new species.

Dark castaneous, underside, legs, antennæ and palpi paler, above and below rather sparsely clothed with short fulvo-cinereous pubescence. Head coarsely and closely punctate; antennæ extending to a little below the elytral humeri, strongly serrate, joints three a little longer than second, the two together nearly as long as the fourth joint, eleventh joint slightly longer than the tenth and feebly appendiculate. Prothorax convex, slightly broader at base than long, sides feebly converging to about one third from apex and then arcuately converging to apex; surface alutaceous, coarsely and closely punctate; hind angles strongly, obliquely carinate. Elytra about two and one half times as long as the prothorax and rather strongly narrowing to apex, sutural angles feebly rounded; surface punctate-striate; intervals flat, moderately coarsely punctate, the punctures not very closely placed and not smaller than those of the striæ, surface at base somewhat rugose. Prosternum shining and coarsely and moderately closely punctate; side pieces dull with smaller punctures, intercoxal process a little behind the coxæ suddenly and perpendicularly declivous, intercoxal portion of mesosternum as in *texanus*. Metasternum coarsely and not closely punctate. Abdomen more finely and sparsely punctate than the metasternum. Length 20 mm.

Nogales (type) (Nunnenmacher) and Huachuca Mts., Ariz. (Schaeffer).

This species is related to *texanus* and *peninsularis*. From the former it differs in the form of intercoxal process of prosternum and from *peninsularis* in having a dull, more densely punctate prothorax and the declivous portion of the intercoxal process of prosternum rounded in front above, which part forms in *peninsuaris* a small and rather sharp tooth. It seems to be also very close to the Mexican *setosus* but that species has apparently a longer fourth antennal joint and denser pubescence on upper and under surface.

Otto Schwarz in Genera Insectorum erects for our species of *Ludius* which have the intercoxal process of prosternum not suddenly and perpendicularly declivous a little behind the coxæ, the genus *Trichophorus* using *Ludius* Eschsch. for *Corymbites* Latr. Following strictly the law of priority he may have been correct, but I do not agree with him in placing our *Megapenthes tartareus, aterrimus, limbalis* and *Elater sturmii* also in the genus *Trichophorus.*

For those species having the intercoxal process of prosternum a little behind the coxæ suddenly and perpendicularly declivous he erected the genus *Diplostethus* and for the species having a parallel sided mesosternal fossa the genus *Parallelostethus.* Our *Ludius attenuatus* and five Asiatic species are referred to this latter genus.

Trichophorus carolinensis new species.

Very close to *texanus* from which it differs in narrower, more elongate form, slightly longer antennæ, prothorax more gradually narrowing to apex, generally more opaque surface and pubescence slightly erect. Length 18 mm. Width 5 mm.

Southern Pines, N. Carolina (A. H. Mance).

This species is apparently what Leconte, Horn and Candèze considered to be *hepaticus* a species which, according to Champion, differs generically from the North American species identified by Leconte, etc., as that species. The true *hepaticus* is placed by O. Schwartz in Genera Insectorum in the genus *Orthostethus* and only recorded from Brazil.

Besides the locality given above I have some specimens from Roanoke Isld. and Wilmington, N. C. (Engelhardt & Pollard), from S. Carolina and two smaller specimens from Florida.

Trichophorus substriatus new species.

Elongate, rufo-castaneous; underside antennæ and legs scarcely paler. Head moderately coarsely and densely punctate; antennæ reaching to the hind angles of prothorax, third joint a little longer than second, both together slightly shorter than fourth. Prothorax about as long as wide at base; hind angles acutely carinate; sides rather feebly converging to about apical fifth, thence feebly arcuate; surface moderately closely punctate. Elytra a little longer than twice as long as the prothorax at base, rather strongly narrowing to apex; punctate striate, the first two or three near sutural striæ obliterated, intervals flat and very closely punctate. Under side clothed sparsely with short, yellowish recumbent pubescence; prothorax beneath rather coarsely

and closely punctate; metasternum rather finely punctate at middle, coarsely at sides; abdomen finely and rather sparsely punctate at middle, punctures much larger at sides. Length 13.5 mm. Width 3.75 mm.

Arizona, one male (coll. Dietz).

This species is readily distinguished from similar species by the feebly impressed and partly obliterated elytral striæ and shorter antennæ.

Trichophorus arizonensis new species.

Elongate, rufo-castaneous; underside, antennæ and legs scarcely paler. Head moderately coarsely and closely punctate; antennæ reaching a little beyond the basal angles of prothorax; third joint a little longer than second, both together slightly shorter than the fourth joint. Prothorax slightly longer than wide at base; sides slightly converging towards apex and near apex feebly arcuate; hind angles acutely carinate; surface with moderately coarse punctures. Elytra not quite two and one half times as long as the prothorax at base, punctate-striate, intervals rather flat and somewhat closely punctate, rugose near base. Prothorax beneath coarsely punctate; metasternum coarsely punctate, finely at middle; abdomen coarsely punctate on the first three segments at sides, finely at middle. Length 15 mm. Width 3.5 mm.

S. Rita Mts., Arizona, one male (Marsden).

This species resembles *substriatus,* described above, very much, but is a narrower and more elongate insect with longer antennæ and distinct elytral striæ.

Trichophorus variatus new species.

Elongate, dark castaneous to rufo-castaneous, underside, antennæ and legs slightly paler. Head coarsely and moderately closely punctate; antennæ reaching a little distance below the hind angles of prothorax, third joint a little longer than second and both together a little shorter than fourth. Prothorax as long as wide at base; sides rather feebly converging to apex; hind angles acutely carinate; surface not densely nor coarsely punctate. Elytra about two and one half times as long as prothorax; punctate-striate; intervals feebly convex, not very closely punctate and scarcely rugose near base. Prothorax beneath coarsely punctate, punctures generally rather widely separated; metasternum and abdomen more finely punctate than prosternum. Length 15 mm. Width 4.2 mm.

Brownsville, Texas (Schaeffer).

This is rather a common insect near Brownsville from May to August and a variable species regarding size and color. The smaller

more reddish colored specimens resemble the two previously described species, *substriatus* and *arizonensis,* very much. From *substriatus* it differs in having ditinct elytral striæ and longer antennæ. *Arizonensis* is a narrower and more elongate insect having the side pieces of prosternum much more closely punctate than *variatus* and ventral segments one to four of abdomen with rather numerous large and somewhat perforate punctures at sides of which there are only a few in *variatus* and much smaller. The metasternum is also much more coarsely punctate than in *variatus.*

Orthostethus caviceps new species.

Very elongate, shining, black; rather sparsely clothed with short, yellowish-cinereous pubescence. Head coarsely and closely punctate, broadly excavate in front; antennæ of male extending to far beyond the hind angles of prothorax; joints two and three small, three a little longer than second, four to ten strongly pectinate, eleventh appendiculate, in the female shorter and strongly serrate. Prothorax slightly wider at base than long, obliquely narrowing to apex, hind angles long and acutely carinate and not incurved at tip, surface closely and coarsely punctate, punctures less closely on the disk, on the median line a more or less distinct smooth space; thorax in the female a little shorter and broader than in the male with sides near apex arcuate. Elytra a little more than three times the length of prothorax; gradually narrowing to a little beyond middle then a little more strongly narrowing to apex; sutural angles acute; surface moderately closely and coarsely punctate without striæ. Prosternum at apex and sides coarsely and closely punctate, smooth at middle; metasternum coarsely and closely punctate; abdomen moderately coarsely not closely punctate; last ventral segment at apex feebly emarginate in male, entire in female; mesosternum moderately raised, subhorizontal. Length, male, 23.5 mm., width 6 mm.; female, length 28 mm., width 7 mm.

Huachuca Mts., Arizona (Schaeffer).

Males of this species were taken frequently by beating oak while females were very scarce.

This species is very close to the Mexican *pectinicornis* and may prove on comparison to be the same. The Mexican *pectinicornis* was described from a single worn example, which may account for the color difference of elytra and underside. The Mexican species, however, is said to be somewhat thickly clothed with short, fine pubescence, the hind angles of prothorax incurved at tip and the prosternum coarsely and sparsely punctured, which all does not agree very well with the Arizona specimens.

The mesosternum in *caviceps* and apparently *pectinicornis* also is somewhat intermediate between the species of *Trichophorus* and *Orthostethus*.

Agriotes brunneus new species.

Form of *pubescens*, dark brown, antennæ and legs slightly paler, pubescens yellowish-cinereous, short and sparse. Head coarsely and closely punctate; antennæ with second and third joints nearly equal and each slightly smaller than fourth joint. Prothorax as long as wide at base; sides from the basal angles to apex feebly converging, near apex slightly arcuate, surface opaque and coarsely and closely punctate with large ocellate punctures, deeply impressed medially near base, hind angles feebly divergent and feebly carinate. Elytra a little less than two and one half times as long as the prothorax, sides very feebly arcuate; surface striate punctate, punctures elongate and close; intervals nearly flat, closely and rather finely punctate, near base rugose. Prosternum shining, coarsely and closely punctate, side pieces dull and slightly less coarsely punctate than prosternum. Metasternum and abdomen closely punctate, the latter more finely than the former. Length 11 mm.

Beaver Canon, Utah (Doll and Engelhardt).

This species is to be placed near *fucosus*. It is slightly more robust than that species and has an opaque and more densely punctate prothorax.

Glyphonyx bimarginatus new species.

Elongate, rufo-testaceous, prothorax and suture darker, legs and antennæ yellowish. Head coarsely and rather closely punctate; a small, longitudinal impression on the median line; anterior margin feebly angulate; antennæ reaching beyond the hind angles of prothorax, second and third joints equal. Prothorax nearly parallel-sided to a little before apex; hind angles feebly divergent; lateral carina long, extending nearly to the apical margin; inferior marginal carina strong and rather widely separated at apex from the lateral carina; surface closely punctate at sides with moderate punctures, which are sparser at middle, from the middle to nearly to base a smooth median line. Elytra gradually narrowing to apex; striæ rather coarsely and closely punctate; intervals feebly convex, sparsely and finely punctate. Prosternum sparsely punctate at middle, punctures a little larger at sides and apex; propleuræ a little more coarsely punctate than prosternum at sides; prosternal process acuminate, V-shaped and strongly margined. Metasternum coarsely and closely punctate; abdomen moderately closely and more finely punctate at middle. Length 5 mm.

Enterprise, Fla. (O. Dietz).

The long, nearly entire lateral carina and the rather feebly angulated anterior margin of head will principally distinguish this species from its nearest allies.

Glyphonyx quadraticollis Champion. Biol. Cent. Am. Col., III, 1, 536.

A species which I have taken commonly in the Huachuca Mts., Ariz., agrees very well with the description of this Mexican species, which is said to be also common and widely distributed in Mexico.

The color is piceous or reddish brown. Head coarsely and closely punctate. Prothorax subquadrate with sides parallel; lateral carina extending nearly to apex, the inferior marginal carina distinct and sinuate behind, surface coarsely and rather closely punctate. Elytra punctate-striate, striæ coarsely punctured; intervals feebly convex, somewhat rugosely punctate. Prosternum and propleuræ with somewhat coarse, not closely placed punctures, prosternal process acuminate. Length about 6 mm.

Huachuca Mts., Ariz. (Schaeffer).

The above described *bimarginatus,* which has also a long, nearly entire, lateral carina, differs from pale colored specimens of this species in having a longer and less coarsely punctured prothorax and a more finely punctate prosternum and elytral intervals.

Glyphonyx dubius new species.

Elongate, piceous, antennæ and legs paler. Head moderately coarsely, not closely, punctate; antennæ reaching slightly a little beyond the basal angles of prothorax, second and third joints subequal. Prothorax subquadrate; sides nearly parallel; hind angles feebly divergent, lateral carina long, nearly reaching to the apical margin; inferior marginal carina entirely obliterated behind; surface sparsely and rather finely punctate behind middle of disk, more coarsely and closely punctate at sides and apex. Elytra nearly two and one half times as long as prothorax at base; striæ punctate with moderately large punctures; intervals feebly convex, rather sparsely and finely and not rugosely punctate. Prosternum and propleuræ rather sparsely punctate; prosternal process acuminate V-shaped; metasternum at sides more closely punctate than prosternum; abdomen finely punctate at middle, more coarsely at sides. Length 6 mm.

Huachuca Mts., Arizona (Schaeffer).

This species looks very much like *quadraticollis,* mentioned above, but has a more finely punctate prothorax and elytra and the inferior marginal carina obliterated behind. It seems to agree with the de-

scription of the Mexican *brevicollis,* which has also the internal marginal carina obliterated behind, but the prothorax is not "considerably broader than long" in the Arizona specimen.

Glyphonyx ferruginosus new species.

Elongate, ferruginosus, antennæ and legs paler. Head moderately closely punctate; antennæ reaching to about the hind angles of prothorax. Prothorax subquadrate; sides parallel, near apex slightly arcuate, hind angles feebly divergent; lateral carina not extending to the middle, inferior marginal carina entire and slightly sinuate near base; surface with moderate, well separated punctures. Elytra not quite three times as long as prothorax; striæ with coarse punctures at base, finer towards apex; intervals feebly elevated and finely and sparsely punctured. Prosternum and propleuræ with well separated moderate punctures; prosternal process Y-shaped, metasternum more coarsely punctate at sides than prosternum, abdomen rather finely punctate. Length 4.75 mm.

Huachuca Mts., Arizona (Schaeffer).

This species resembles closely *testaceus,* but has a differently formed prosternal process, which is in that species V-shaped. It seems to agree also with the description of the Mexican *præcox* but the punctuation of the prothorax in the Arizona specimens cannot be called sparse and fine, the lateral carina does not extend quite to the middle, and the inferior carina is scarcely sinuate behind. All our species have a V-shaped prosternal process with the exception of *inquinatus,* if I have correctly identified that species, and *ferruginosus,* which have a Y-shaped prosternal process.

Plastocerus granti new species.

Elongate, very narrow; sparsely pubescent; dark castaneous, underside paler, legs, antennæ and palpi testaceous. Head very coarsely and densely punctate; eyes moderately prominent, width, as seen from the front, less than one half the interocular space; antennæ with third and fourth joints equal in size, fourth and following joints each with a moderately long ranius, the rami not as long as the interocular spase. Prothorax subquadrate, lateral margin acute, arcuate at about apical third and then feebly converging towards basal angles, which are rather strongly divergent and not carinate; surface coarsely and densely punctate, the punctures acellate and more crowded at sides than on the disk. Elytra a little wider than the prothorax in its widest part, sides feebly converging towards apex; surface punctate-striate, punctures moderate; intervals flat and rather sparsely punctate. Prosternum at about middle obliquely elevated into a moderately strong

carina, rather sparsely punctate, sides pieces more coarsely and densely punctate; abdomen moderately punctate. Length 9 mm.

Southwestern Texas (Chapman Grant).

A narrower and smaller insect than our other species of *Plastocerus* from all of which it differs in the carinate prosternum. The antennal rami are shorter, less densely ciliate and with shorter hairs than in *schaumii* or *megalops* and are nearly as in *frater*.

THE ORDERS AND RELATIONSHIPS OF APTERYGOTAN INSECTS.[1]

BY G. C. CRAMPTON,

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The ancestors of the Arthropoda were, in all probability, very similar to Annelidan worms, and, although the Annelida, like all recent forms, have developed many characters peculiar to themselves, certain members of the group have preserved some exceedingly primitive features, which enable us to infer what the ancestors of Arthropods must have been like.

Although the discussion of the probable lines of descent leading up to the development of the Insectan type of Arthropod is beyond the province of the present paper, it may be remarked that the "Apodidæ" have departed but little from the condition which was doubtless characteristic of the ancestral Crustacea, and such Crustaceans as *Apus* and *Branchippus* (which are not far removed from such Trilobites as *Triarthrus, Neolenus* and *Nathorstia*) have departed but little from the probable ancestral condition of Arthropods in general. These Crustacea and Trilobita, then, present as nearly as any Arthropods now known, the characters present in the earlier forms, and enable us to gain some idea of what the common ancestors of the Arachnida, Merostoma, Trilobita, Crustacea, "Myriapoda" (*sensu lato*), Hexapoda, etc., were like.

[1] Contribution from the Entomological Laboratory of the Massachusetts Agricultural College, Amherst, Mass.